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ABSTRACT

The purpose of this research was to determine the optimum means of identifying personnel qualified to perform Aviation 3M Data Analysis. Resolution of this objective involved the identification of numerous problem areas contributing to the instability of the Data Analysis work force and the scarcity of personnel in that work force. The approach involved technical conferences and discussions with Maintenance Officers and Aviation 3M Data Analysis Officers as well as a number of occupational analysis interviews with enlisted personnel assigned to Aviation 3M Data Analysis billets at 33 east and west coast commands, staffs, and offices. Based upon these preliminary visits, two questionnaires were developed. The first was a Command Questionnaire, designed to elicit information regarding problems experienced by the command. The individual Questionnaire was administered only to qualified Aviation 3M Data Analysts and was designed to obtain information concerning the type of work performed, school background, and similar information. Conclusions reached indicate that the Aviation 3M Data Analysis function is closely allied to the Aviation Maintenance Administrationman (AZ) rating and that input into the Aviation 3M Data Analysis field should be from the AZ rating. (Author)

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AUGUST 1969

A STUDY OF THE RATING STRUCTURE REQUIREMENTS FOR THE AVIATION 3M DATA ANALYST

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Joseph R. Heinzel
R. V. May, Jr.

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by

Joseph R. Heinzel
R. V. May, Jr.

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SUMMARY AND CONCLUSIONS

Problem

With the introduction of the Maintenance and Material Management System (3M System) into the aviation arm of the Navy, a variety of personnel and administrative problems occurred. One of the fundamental problems has been the identification and effective utilization of personnel who perform Aviation 3M Data Analysis. Although a sufficient number of personnel has been trained over the years to staff the Aviation 3M Data Analysis billets, a shortage of these technical personnel still exists due to inadequacies in the identification of these personnel. This shortage is also integrally related to shortages of personnel in the Aviation Maintenance Administrationman (AZ) rating as well as in some of the technical ratings which have been performing the Data Analysis function. As a result of the continuing problems in the area and recommendations emanating from three General Aviation Technical Training Conferences (GATTC), the Chief of Naval Operations (OP-56) requested the Bureau of Naval Personnel (Pers-A3) to determine whether the structure of the Aviation Maintenance Administrationman (AZ) rating should be revised to accommodate the field of Aviation 3M Data Analysis or whether a separate new rating should be established for Aviation 3M Data Analysts.

Background and Requirements

The function of the Aviation 3M Data Analyst is to prepare various reports for transmittal to higher echelon commands and offices. The analyst screens computer printouts for documentation errors and develops and constructs charts, graphs, trends, etc., to be used in the analysis of data to determine if important trends, correlations, etc., appear to be developing. When the Aviation 3M Data Analysis billets were established, a number of personnel of various ratings who were qualified to enter the school at Memphis were trained to perform the analysis functions. Later, attempts were made to limit entrance into this function to the AZ rating. Currently, personnel shortages in the AZ rating as well as in various technical ratings and the impermanency of identification of personnel qualified for Aviation 3M Data Analysis in any rating has in effect created apparent shortages of personnel qualified to perform the Aviation 3M Data Analysis function. This has been a continuing problem in all aviation commands and staffs and the General Aviation Technical Training Conference has had the problem on its agenda in the years 1964, 1966, and 1967.

Approach

The first step in this research involved the detailed analysis of all correspondence, reports, and related materials on this subject which were available to this Activity. The next step involved detailed technical discussions with 33 East and West Coast commands and Navy offices in Washington, D. C., and Mechanicsburg, Pennsylvania, concerning specific problem areas. Some occupational analysis interviews with enlisted personnel assigned to Aviation 3M Data Analysis billets were also conducted. The information gathered during the preliminary survey visits was analyzed and integrated into two

questionnaires, one for commands with Aviation 3M Data Analysts on board and one for individual data analysts. These questionnaires were distributed to a selected sample of 82 Navy-wide aviation commands. Ninety-four percent of the command questionnaires and 132 individual data analyst questionnaires were returned. The conclusions and recommendations resulting from the analysis of the information gathered by these questionnaires are presented in this report.

Findings, Conclusions, Recommendations

This research led to the conclusion that a number of factors have created an unstable work force in the Data Analysis area and this has resulted in a shortage of identified personnel who are qualified Aviation 3M Data Analysts (pages 4 to 7). Furthermore, it was concluded that completion of the Data Analyst C-School is a justified prerequisite for effective performance as an Aviation 3M Data Analyst (page 7) and that the Aviation 3M Data Analysis function is most compatible with the AZ rating at the E-6 level and above (page 4). Finally, it was concluded that the AZ rating would provide sufficient input for the DAC School to meet the numerical requirements for Aviation 3M Data Analysts (pages 7 and 13). Therefore, it was recommended that a service rating within the AZ rating be established at pay grade E-6 and extend through E-9 (pages 13 to 15). Secondly, it was recommended that the Manpower Authorization forms for activities requiring Aviation 3M Data Analysts be revised to include this recommended AZ service rating (page 16). Thirdly, it was recommended that the administrative procedures described on page 15, or comparable ones, for an E-[illegible] AZ to transfer to the AZ Data Analyst Service Rating should be established (page 16). Finally, it was recommended that the path of advancement for Aviation 3M Data Analyst to officer status should be to Warrant Officer 741X (Aviation Maintenance Technician) and Limited Duty Officer, Aviation Maintenance (685X) (page 16).

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A STUDY OF THE RATING STRUCTURE REQUIREMENTS FOR THE AVIATION 3M DATA ANALYST

INTRODUCTION

With the introduction of the Maintenance and Material Management System (3M System) into the aviation arm of the Navy, a variety of personnel and administrative problems occurred. These problems and their solutions have been the subject of much correspondence over the years. The General Aviation Technical Training Conference (GATTC) has had the Aviation 3M System on its agenda, and the reports of these conferences of 1964, 1966, and 1967 contain specific recommendations as to solutions to the various problems in this area.

As a result of the 1967 GATTC report, as well as many other stimuli, the Chief of Naval Operations (OP-56) requested the Chief of Naval Personnel to establish a personnel research project on this subject. A copy of the letter of request from the Chief of Naval Operations is shown in Appendix A.

Although several relatively minor issues were raised in the OP-56 request, the primary emphasis was on the question of whether the structure of the Aviation Maintenance Administrationman (AZ) rating should be revised to accommodate the field of Aviation 3M Data Analysis or should a separate new rating be established for Aviation 3M Data Analysts.

APPROACH

For convenience, the approach followed in this study will be described in five eparate steps. The first step involved a detailed analysis of the correspondence, reports, documents, and records on file in this command as well as similar materials in other commands in the San Diego area. In addition, a copy of the curriculum of the Data Analysis Class "C" School (DAC) at Memphis was obtained and studied in detail. Especially helpful in this step was the Naval Aviation Maintenance and Material Management Manual (Aviation 3M Manual) which enabled the research staff to familiarize itself with the manner in which the Aviation 3M System operated and the role of the Aviation 3M Data Analyst in that system.

The second step was essentially a continuation of the problem familiarization effort described above, but it involved much more detailed technical discussions concerning specific problem areas. The purpose of this step, which involved visits to East and West Coast commands and to Navy offices in Washington, D. C. and Mechanicsburg, Pennsylvania, was to gather specific information which would be used later in the study in the development of a Command Questionnaire and an Individual Questionnaire which would be mailed to a Navy-wide sample of commands. A copy of each type of questionnaire containing tallies of the responses to each item is presented in Appendix B.

This preliminary survey consisted of technical conferences and discussions with Maintenance Officers, Assistant Maintenance Officers, and Aviation 3M Data Analysis Officers as well as a small number of occupational analysis

interviews with enlisted personnel assigned to Aviation 3M Data Analysis billets. These interviews were conducted by Personnelmen on the staff of the research group.

The commands contacted on the West Coast during this preliminary survey are listed below:

COMNAVAIRPAC	VF-111
COMFAIRMIRAMAR	VF-121
COMFAIRSDIEGO	VF-124
NAS, Imperial Beach (IMA)	HS-10
NAS, Miramar (IMA and OMD)	VS-21
NAS, North Island (IMA and OMD)	VS-35
Fleet Work Study Group, Pacific	VS-41

The commands and offices visited during the preliminary survey on the East Coast are listed below:

Chief of Naval Operations (OP-56)	Maintenance Support Office, Mechanicsburg
Bureau of Naval Personnel	Surface 3M Maintenance System School-Data Analyst Course
Chief of Naval Material	USS FORRESTAL (CVA 59) (AIMD and Ship's Data Analysis Section)
Naval Air Systems Command	RVAW-120
COMNAVAIRLANT	VA-65
COMPHIBLANT	VF-31
COMFAIRNORFOLK	HS-3
COMFAIRWINGSLANT	VS-24
Fleet Air Wing 5	
NAS, Norfolk (IMA and OMD)	
EPDOLANT	

During step three, the information gathered during the preliminary survey trips was analyzed and evaluated, and two questionnaires were developed. The first questionnaire was a Command Questionnaire which was designed to elicit information regarding problems and recommended solutions from the command in regard to the Aviation 3M Data Analysis area. The second questionnaire was an Individual Questionnaire which was to be administered to qualified Aviation 3M Data Analysts only. This questionnaire was designed to obtain information concerning the type of work which the analyst performed, how much schooling he had, personal information such as collateral billet assignments, as well as the amount of DAC School training he utilized in his billet.

The fourth step was the distribution of the questionnaires to a selected sample of Navy-wide aviation commands utilizing the services of Aviation 3M Data Analysts. The commands to which these questionnaires were distributed are as follows:

COMFAIRALAMEDA	NAS, Barbers Point	NAF, Naha	VA-125
COMFAIRMIRAMAR	NAS, Lemoore	RVAW-110	VA-128
COMFAIRWHIDBEY	NAS, Miramar	VA-113	VA-145
NAS, Alameda	NAS, Moffett Field	VA-122	VA-146

VAH-123
VAP-61
VAQ-130
VAW-112
VF-92
VF-96
VF-114
VF-162
VF-194
VF-213
VFP-63
VG-3
VP-2
VP-9
VP-17
VP-19
VP-31
VQ-1
VR-21
VS-29
VW-1
COMFAIRJAX
COMFAIRNORFOLK
NAS, Albany
NAS, Cecil Field
NAS, Glenview
NAS, Jacksonville
NAS, Norfolk
NAS, Oceana
NAF, Naples
RVAH-1
RVAH-3
RVAH-6
RVAH-11
RVAW-120
VA-12
VA-35
VA-37
VA-42
VA-43
VA-174
VAP-62
VAW-124
VF-13
VF-14
VF-31
VF-32
VF-103
VC-6
VP-5
VP-7
VP-21
VP-26
VQ-2
VR-24
VS-22
VS-28
VT-1
VT-2
VT-4
VT-22
VT-25
VW-4
HC-6
HS-5
HS-11

Nearly 94% of the commands sampled in this mail survey returned completed questionnaires. This is an unusually high response and perhaps indicates the degree of importance with which the Aviation 3M Data Analysis problem is viewed. Further, COMNAVAIRLANT, although not an action addressee in the survey, evidently felt that the study was of sufficient importance to make copies of the questionnaires, have them completed by appropriate personnel, and returned for inclusion in the survey.

The final step in this study was the analysis and evaluation of the replies, and the development of the recommendations to be submitted to BUPERS and CNO. During this phase the analysts and military personnel assigned utilized data processing equipment as well as various tabulating and analysis techniques. Also, a visit to other West Coast commands was made in conjunction with another study to verify some information which was brought out in the completed questionnaires which had been returned.

AVIATION 3M DATA ANALYST FUNCTIONS

Generally speaking, at the squadron level the analysts perform the same functions regardless of type or size of the command. Thus, they all have responsibility for screening man hour accounting cards (MHA's), Maintenance Action Forms (MAF's), Support Action Forms (SAF's), and Technical Data Compliance Cards (TDC's) for accuracy prior to submission to local data processing centers. They also screen computer printouts for documentation errors. They regularly prepare on a scheduled basis the squadron 3M Monthly Summary, including the development and construction of all charts, graphs, trends, etc. They also analyze the data to determine if important trends, correlations, etc., appear to be developing. In addition, in 76% of the squadrons sampled, the Aviation 3M Data Analysts maintain the Maintenance Department personnel roster. Finally, in some squadrons (33%) which have a sufficient number of Aviation 3M Data Analysts on board, the master roster of all squadron personnel is maintained by the analysts--a task usually performed by the Personnel Office.

Several of the activities contacted stated that they would like to have the services of a full time Aviation 3M Data Analyst to act as an Aviation 3M Instructor. There is a general feeling that knowledge of the Aviation 3M System at all levels is not as complete as it should be, and it is believed that the Aviation 3M Data Analyst is ideally qualified to function as an Aviation 3M Instructor.

This instruction is especially needed at the work center level. It is generally believed that the squadron analyst should be at least an E-6, preferably an E-7. This pay grade is preferred because of the contact which he must maintain with the work center supervisors, who in turn are usually E-6 or E-7.

At the staff level, Aviation 3M Data Analysts are assigned duties under the Maintenance Officer. Normally, they act as special staff assistants to this officer and provide him with analytical data so that management maintenance decisions can be consummated. In addition, staff analysts prepare summaries of data compiled from Aviation 3M data submitted by subordinate units. In the case of large staffs, this summarized data is provided to class desks as well as power plant and avionics offices. The summaries include averages and norms by plane type, set forth performance standards, and show comparisons among squadrons.

Approximately twenty different Aviation 3M summary reports are received monthly from the Maintenance Support Office (MSO) by the major staffs. Some staffs provide feedback data to subordinate commands in report form or through preparation of an Aviation 3M monthly newsletter. Staff analysts are responsible for the formulation and preparation of instructions and notices relative to Aviation 3M data collection which are used as guides by subordinate commands in the processing of Aviation 3M data. Data processing knowledge is required of staff analysts to the extent that they are familiar with programs and format to enable them to request feedback from either the MSO or air station data processing centers. Some effort is also expended by staff analysts in processing requests from squadrons and other commands for special reports, either providing data, if available, or transmitting the requests to the MSO or local data processing centers.

Therefore, the work requirement for Aviation 3M Data Analysis duties at the staff levels indicates a need for senior data analysts, both E-8 and E-9.

SURVEY RESULTS

The information obtained during this study by means of technical interviews, occupational analysis interviews with individual Aviation 3M Data Analysts, and the fleet survey questionnaire were analyzed and evaluated and are described below as the results of the survey.

1. Shortage of Aviation 3M Data Analysts

Currently, there are a number of Group IX ratings engaged in Aviation 3M Data Analysis, the principal ratings being AZ, AM, AE, AT, and AD. Of this

group, the AZ rating has the most persons so employed. This variety of ratings other than AZ in the Aviation 3M Data Analysis area (about one-third) is one of the reasons that the supply of trained and qualified personnel working in the analysis field has become unstable and a shortage of trained and qualified Aviation 3M Data Analysts has developed. Some of the underlying factors involved are discussed below.

It was found that 28 men (21%) of those performing as Aviation 3M Data Analysts do not hold the NEC-6313, 3M System Data Analyst, while 34 (23%) of those who hold the NEC-6313 are not performing as Aviation 3M Data Analysts. Moreover, of those actually assigned as Aviation 3M Data Analysts, only 90 (68%) were employed as analysts on a full time basis. It is significant that less than three-fourths were employed as Aviation 3M Data Analysts full time because the majority of these persons were either in a rating other than AZ and had collateral duties or were AZ's who were also employed in the regular duties of their rating. Thus, over one-fifth of the personnel who were performing Aviation 3M Data Analyst work were not designated as being qualified to perform the work while almost one-fourth who had been trained for the work were doing something else. Furthermore, of those who were performing Aviation 3M Data Analysis, less than three-fourths were employed at the job on a full time basis. Additionally, of the 96 commands surveyed, 11 (11.5%) did not have a qualified Aviation 3M Data Analyst assigned for six or more months between 1 January 1967 and 31 October 1968, and 23 (24%) did not have a qualified analyst on board for one or more months during that period.

Because of the facts described above, it would appear that there is a problem in accurately accounting for the Aviation 3M Data Analysts which has led to instability, and thus a shortage, in the work force. The fact that a number of commands did not have qualified analysts on board for as long as six months attests in itself to the shortage of qualified analysts. An interesting point in this connection is that a few commands were found to have ordered personnel to the DAC School who met the school entrance requirements merely to enable the commands to show an individual with NEC-6313 on board for administrative inspections. In reality, however, when these personnel had completed the school and returned to their commands, they were not assigned as Aviation 3M Data Analysts but were used in their regular rating duties, and the commands had no intention of using them as Aviation 3M Data Analysts in the future.

2. AZ's as a Source for Aviation 3M Data Analysts

There is a shortage of personnel in the AZ rating. Since the beginning of the Aviation 3M Data Analyst problem, there have been several attempts to limit the input into the Aviation 3M Data Analyst field to the AZ rating exclusively. However, it would appear that the AZ shortage would be aggravated if only the AZ rating were responsible for Aviation 3M Data Analysis work. Opinion is divided as to whether or not Aviation 3M Data Analyst work is similar to the maintenance administration work of the AZ rating. Supporters of a separate Aviation 3M Data Analyst rating maintain that the work is entirely different from the AZ's field, while those not in favor of a new

rating claim that all of the work is merely maintenance administration. Regardless of the similarity or dissimilarity of the work, however, the shortage in the AZ rating has influenced unfavorably the numbers of 3M System trained AZ's who actually fill Aviation 3M Data Analysis billets. Thus, because of the shortage of AZ personnel, it is not unusual to find AZ's who have been to the DAC School and have the NEC-6313 working as AZ's in the technical library or in the logs and records section or elsewhere rather than working in the Aviation 3M Data Analysis Branch.

A second point relative to AZ's as a source for Data Analysts is the fact that the DAC School entrance requirements are higher than the entrance requirements for the AZ rating. To qualify for entrance to the school, the candidate must possess GCT+ARI of 115. Entrance to the AZ rating requires a GCT+ARI of 105. It is apparent that all AZ personnel cannot qualify for the DAC School. On the other hand, there is general agreement among the commands contacted that all AZ's do not require an Aviation 3M Data Analysis capability.

3. Other Aviation Ratings as a Source of Aviation 3M Data Analysts

Because of the past difficulty in obtaining sufficient input from the AZ rating due to the disparity between the entrance requirements into the rating and into the DAC School, a number of personnel of other aviation ratings who meet the entrance requirements of the DAC School have been given the training and assigned the NEC-6313. Some of these personnel draw proficiency pay for the duties of their rating. These personnel, quite naturally have been reluctant to transfer to the AZ rating because they would lose their proficiency pay, although many of them do not object to continuing to perform Data Analyst work in their present commands or even in future commands.

Many of these non-AZ personnel, however, prefer the shop work of their rating in which they have become experienced and, upon transfer from their present commands, prefer to return to their technical work. This is facilitated by the fact that these personnel have a higher priority technical NEC, with the result that they are assigned to technical work in their next organization rather than to the Aviation 3M Data Analysis field. Further, from an objective Navy-wide standpoint, the advisability of keeping AT's and AE's, for example, in the Aviation 3M Data Analysis field, based solely on their six weeks DAC Schooling and one tour as an Aviation 3M Data Analyst, is questionable. These personnel already possess a scarce skill which required years of experience and training to acquire.

A further point is the fact that personnel below E-7 in other ratings, although they may like 3M System work, are reluctant to transfer to the AZ rating merely to continue being assigned as Aviation 3M Data Analysts because they would become responsible for the complete AZ rating scope and, having had no experience in the AZ field, would have difficulty in passing the AZ advancement examinations. During the field research phase of this study, several such transferees were contacted who, while apparently being excellent Aviation 3M Data Analysts, were unable to advance in the AZ rating because of their lack of experience in this field.

4. DAC School as a Prerequisite for the Aviation 3M Data Analyst

From the replies to the fleet survey questionnaire, it has been determined that 87% of the personnel actually performing Data Analysis work have completed the Data Analyst School; 11% of those performing the Aviation 3M Data Analysis work did not go to school; and, of those attending, only 2% did not complete the school. During the course of the technical interviews with Aviation 3M Data Analysts, the opinion was almost unanimous that, in order to function effectively as a Data Analyst, the individual should attend the DAC School. It was brought out that, in some cases where the squadrons had been without the services of Data Analyst personnel, they were able to train one of the senior enlisted personnel who appeared to have an "inborn" analytical ability to function as an Aviation 3M Data Analyst. However, in all cases, it was brought out that the individual so trained at the squadron level without the formal DAC School could not perform as effectively as the personnel who had been to the school. For example, the non-school analysts were proficient in ensuring that the various MHA's, MAF's, SAF's, TDC's, etc., were properly completed by the work centers and were adequate at completing the 3M Monthly Summary which is submitted to the MSO. They were unable, however, to project trends or to determine factors which cause abnormal aircraft discrepancy trends. Thus, it might be summed up by saying that they were proficient in performing the administrative portion of the Aviation 3M Data Analysis job but were unable to perform the more sophisticated analysis which is a built-in factor of the billet.

As previously pointed out, the DAC School GCT+ARI entrance requirement is a multiple of 115 while the AZ rating GCT+ARI entrance requirement is a multiple of 105. From this it is apparent that not all AZ's would qualify for the necessary training. This appears to be borne out by a study conducted by the Chief of Naval Air Technical Training in 1966. This study found:

> "Of the total AZ inputs thus far in calendar year 1966, 11.5% have been dropped for inadequate background in mathematics, as compared to 4.6% for other ratings during the same period. Moreover, the total number of AZ's receiving data analysis training appears to be low, considering its significance to the rating. Of the 274 Navy enlisted graduates to date in calendar 1966, only 61 (22%) have been from the AZ rating. One root of this difficulty is the inability of many AZ's to meet the prerequisites in mathematics."*

Thus, it does not appear that the school can be made a prerequisite for all AZ personnel. It was brought out in the fleet survey, however, that 39% of the AZ's have the GCT+ARI multiple of 115 and virtually all these would have been recommended for the DAC School by their commands.

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*CNATECHTRA ltr Code 323 of 25 Nov 1966 to CNO, Subj: Advancement in Rating Qualifications for the Aviation Maintenance Administrationman Rating; revision of

5. The Need for General Training in the Aviation 3M Maintenance System

Although there was some opposition to the Aviation 3M Maintenance System originally among experienced aviation maintenance officers, the operation of the system during the past several years has been found generally useful and effective, and the general feeling expressed during the face-to-face interviews with aviation maintenance officer personnel was that the system provides a great deal of information which is not otherwise available and is a system which they should "make work." Therefore, it was found that these officers emphasized the need for attendance at the DAC School and for broader general training concerning the Aviation 3M Maintenance System among aviation personnel in general.

It is the opinion of the vast majority of personnel contacted, both in personal interviews and in the replies to the questionnaires, that there is insufficient emphasis placed on Aviation 3M System training. This majority feels that training in the overall 3M System should commence at the Recruit Training Command with further emphasis being placed at the A-School level. Then, when the men are sent to the fleet and receive on-the-job training in the aviation command to which they are assigned, they will have a sound fundamental knowledge of what the system is designed to accomplish and how it provides for better maintenance. This would reduce the number of problems which Aviation 3M Data Analysts currently experience with the documents prepared by work center personnel.

6. Opinions Relative to Solution of the Aviation 3M Data Analyst Problem

As has been indicated, most of the problems in the Aviation 3M Data Analysis area arise because there are insufficient qualified analysts actually assigned to Aviation 3M Data Analyst billets, even though there have been more than enough trained for the billet requirements. This fact, together with the other results of the survey previously discussed, indicate that effective identification of qualified Aviation 3M Data Analysts and an effective administrative procedure for retaining such personnel in this field represent the fundamental problem.

In discussions with personnel competent in the Aviation 3M Data Analysis field, a number of opinions were expressed regarding ways in which the field could be made more attractive to qualified personnel, thereby alleviating the shortage of competent analysts. All of these opinions can be summarized under the following seven possible solutions:

(1) Establish a new General Rating to encompass both surface and aviation 3M Data Analysis.

(2) Designate Aviation 3M Data Analysis billets as proficiency pay billets.

(3) Add the Aviation 3M Data Analysis function to the AZ rating as a regular responsibility and lower the DAC School entrance requirements.

(4) Add the Aviation 3M Data Analysis function to the AZ rating as a regular responsibility of the rating; include instruction of a basic preliminary nature on the 3M System in the AZ A-School; and establish an AZ B-School for instruction on advanced 3M System duties as well as other duties of the AZ rating.

(5) Transfer the control of all personnel of all ratings currently holding NEC-6313 to BUPERS control.

(6) Establish a new General Rating for Aviation 3M Data Analysts which will extend from pay grade E-4 through E-9.

(7) Establish a Service Rating within the AZ rating which begins at pay grade E-6 and extends through E-9, with initial input from volunteers of any rating currently holding NEC-6313 but with future input restricted to AZ's at the E-6 pay grade.

DISCUSSION OF ALTERNATIVE SOLUTIONS

Although the original plan was to concentrate on the relative values to the Navy of establishing a new General Rating for Aviation 3M Data Analyst or revising the AZ rating to incorporate this function within the AZ rating, the questionnaire survey and the face-to-face interviews with representatives of operating units and staffs indicated that several more alternative solutions should be given consideration, as listed in the previous section. Therefore, each of the seven alternative solutions will be discussed in this section.

1. Establish a new General Rating to encompass both surface and aviation 3M Data Analysis.

Since the rudiments of data analysis would appear to be identical whether the skill was to be utilized in either the surface or aviation Navy, it at first appeared that it might be feasible to establish one rating for both surface and aviation 3M Data Analysis. During the technical interviews with competent personnel in the 3M Data Analysis field on both the West and East Coasts, the opinion of these personnel was almost unanimous that such a rating would be feasible. In fact, the 3M Data Analysis School for surface personnel is very similar to the course which the aviation personnel attend. Also, the Aviation 3M Data Analysts contacted in this study stated that they saw no reason why they could not function effectively in the surface 3M Data Analysis program. However, because of their long association with naval aviation and their general opposition to serving in billets aboard surface ships other than aircraft carriers, they generally did not favor the one-rating solution to the Aviation 3M Data Analysis program. There would, of course, be some period of time necessary to familiarize themselves with the new parts, terminology, etc., with which they would have to work but they felt that this could be quickly overcome.

During the course of this analysis, it was also determined that the aviation and the surface 3M programs are not compatible since, for example, the aviation 3M program uses different data elements, data collection forms/ procedures, and data products. In addition to this, a problem would arise to determine the input into such a rating. While such a problem could undoubtedly be resolved, it would take a great deal of study--a study which would be attempting to solve a potential problem of the future for the surface Navy. The emphasis at this time, of course, is to solve the current serious problem in the Aviation 3M Data Analysis field in the shortest period of time. Therefore, it was concluded that the establishment of a 3M Data Analysis general rating for both surface and aviation 3M Systems would not solve the current problem being experienced in the aviation field.

2. Designate Aviation 3M Data Analysis billets as proficiency pay billets.

Some of the personnel now functioning as Aviation 3M Data Analysts are in ratings in which they draw proficiency pay. The suggestion was made repeatedly that the way to solve the Aviation 3M Data Analyst shortage and associated problems is to designate analysts' billets as proficiency pay billets so that all qualified personnel would be anxious to serve in Data Analysts billets.

This solution appears to skirt the problem. Aviation 3M Data Analysis billets do not really appear to qualify for proficiency pay because they are not critical in that there are a sufficient number of qualified personnel available. Figures offered by the Bureau of Naval Personnel indicate that there have been more than sufficient numbers of personnel trained to fill all of the Aviation 3M Data Analyst billets. However, shortages of Aviation 3M Data Analysts still remain. If proficiency pay were instituted and all of these trained personnel were to request transfer to Data Analysis billets so as to draw proficiency pay, the billets would no longer be classified as critical. Consequently, the situation would revert to what it currently is. It must be concluded that the designation of Aviation 3M Maintenance Data Analysis billets as proficiency pay billets would be only a temporary solution and, therefore, is not a feasible solution to the Data Analyst problem.

3. Add the Aviation 3M Data Analysis function to the AZ rating as a regular responsibility and lower the DAC School entrance requirements.

The third alternative solution to the Aviation 3M Data Analysis problem would be to add it as a regular requirement of the AZ rating. Since the entrance to the AZ rating does not coincide with the entrance to the DAC School, all AZ's would not automatically qualify for the school. The school entrance requirements could, of course, be lowered so as to permit all AZ's to attend the school.

The study conducted by the Chief of Naval Air Technical Training in 1966 indicates, however, that AZ's have difficulty in completing the school. Thus, the lowering of the entrance requirements would not seem to solve the shortage problem. Instead, it would mean that more personnel would be sent to the

school but with a lower potential for successfully completing the school than at the present time. In addition, it would appear to be impractical to require all AZ's to be responsible for a function which is performed by a relatively small percentage of the AZ rating.

As an adjunct to this possible solution, it might be that the course of the DAC School could be changed to eliminate part of the statistical training which appears to be a difficult portion of the course. The returns from the fleet survey indicated that, of the 132 Aviation 3M Data Analysts who completed the questionnaires, 72% utilize less than half of the statistical training. It was determined also, however, that the majority of this 72% who do not utilize all of the statistical training are assigned to operating squadrons.

A number of IMA's and most of the staff level assignments require most of the statistical training given at the school. Furthermore, it is envisioned that the squadron Aviation 3M Data Analysts may begin conducting analysis at a greater depth to provide more statistical background. For example, the survey brought out that 67.3% of the Maintenance Officers in the 96 commands who responded to the fleet survey have had at least a five day course on the 3M System, while 73.4% of the Assistant Maintenance Officers have had such a course, and 50.5% of the Quality Assurance Officers have had the course. Therefore, it may be expected that increasing requirements may be placed upon the Aviation 3M Data Analysts who are assigned to operating squadrons. Several squadrons indicated that such a program is already underway. Consequently, it would not appear practical to change the school curriculum by eliminating part of the statistics course. These findings support the conclusion that this is not the proper solution to the shortage of qualified Aviation 3M Data Analysts.

4. Add the Aviation 3M Data Analysis function to the AZ rating as a regular responsibility of the rating; include instruction of a basic or preliminary nature on the 3M System in the AZ A-School; and establish an AZ B-School for instruction on advanced 3M System duties as well as other duties of the AZ rating.

This alternative would appear to provide an orderly input into the Aviation 3M Data Analysis field. Under this alternative, the lower level 3M Data Analysis duties could be performed by AZ's in the lower pay grades, and the higher, more demanding duties of the 3M System could be performed by the more senior AZ personnel who had attended the AZ B-School.

There is a significant group of aviation maintenance personnel, however, who believe that all AZ's do not have the adaptability and aptitude for Aviation 3M Data Analysis functions. This group feels that analysis is completely different from the maintenance administrative responsibilities of the AZ rating. This is supported by the results of the study by the Chief of Naval Air Technical Training in 1966 previously referred to in which it was determined that all AZ's do not have the ability to complete the DAC School. Another disadvantage of this alternative solution is that a considerable amount of training of AZ's on the 3M System would be wasted because less than half of the AZ's

perform duties directly related to the 3M System. This over-training of a group which is already in short supply at the higher pay grades would only serve to aggravate the shortage. In addition, making all AZ's responsible for a subject area in which only 39% possess the qualifications for the mathematics and statistics required in the higher levels of 3M Data Analysis would appear to be a problem for AZ's in the advancement in rating examinations as well as significant over-training. Therefore, this solution does not appear to resolve the problem of instability and shortage of Aviation 3M Data Analysts.

5. Transfer the control of all personnel of all ratings currently holding NEC-6313 to BUPERS control.

This alternative is in the process of implementation and will probably ensure that each activity is assigned an Aviation 3M Data Analyst and that all persons holding NEC-6313 are transferred as Aviation 3M Data Analysts instead of simply as members of their present rating or as holders of another NEC.

Placing NEC-6313 under BUPERS control does not overcome the problem of how the Aviation 3M Data Analyst is used after he reaches his new command. For example, during the field research portion of this study, it was not unusual to find AZ's and technical personnel who were qualified Aviation 3M Data Analysts assigned as regular AZ's in other sections, or working in the shops in their technical ratings. It, of course, is the commanding officer's prerogative to assign personnel to the billets in which there is the greatest need of their services. Nevertheless, it still points up the instability in the Aviation 3M Data Analysis area.

In addition, personnel who are detailed strictly by NEC frequently encounter problems when they wish to advance in their rating field. When the NEC responsibilities are not part of a rating, the personnel who are detailed by that NEC, and who are "locked in" for that skill area, are not provided the opportunity to work in their rating area. Therefore, theoretically at least, these personnel are at a disadvantage when they take the advancement in rating examination because they have not had the practical experience of the other personnel of the same rating who are working in their rating field on an everyday basis. Thus, placing NEC-6313 assignments under BUPERS control does not appear to resolve the principal problems in the Aviation 3M Data Analysis field.

6. Establish a new General Rating for Aviation 3M Data Analysts which will extend from pay grade E-4 through E-9.

Establishment of such a rating would not have some of the disadvantages described in connection with the other alternative solutions. A separate rating would clearly identify the occupational area and would ensure that the assignments of personnel in this rating would be in the field for which they are qualified.

One of the entrance requirements for the Data Analyst Service Rating would be a GCT+ARI score of 115. The technical skill pool would be more stabilized because all of the personnel in the rating would have comparable skills. The

initial input into the rating at the E-5 level and above could be from those personnel of any rating currently holding the NEC-6313 who might wish to transfer to the new rating. In this connection, the survey results showed that, of the total population of Aviation 3M Data Analysts contacted, 64% indicated that they would change to a new rating, 14% indicated that they would not, and 22% were undecided. The survey results also showed that approximately one-third of the Aviation 3M Data Analysts are now in a rating other than AZ. Therefore, it appears that there would be a sufficient supply of personnel to transfer into the rating at the E-5 through E-9 levels. The input at the E-4 level would be from AN's.

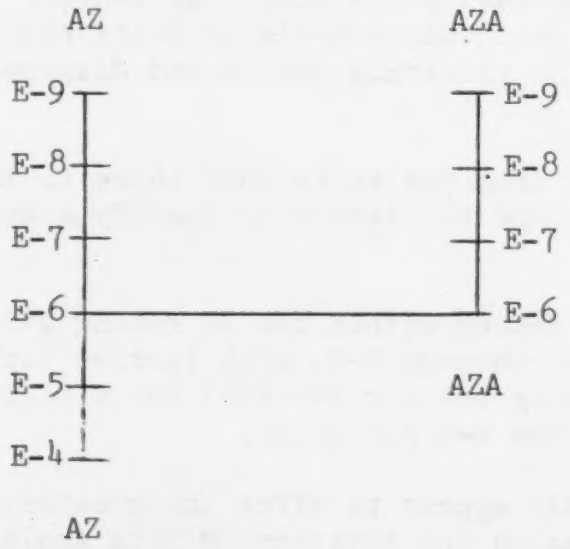
One serious disadvantage of this alternative is that there is a limited amount of "job content" at the E-4 and E-5 pay grades. Generally, personnel at these pay grades who were observed during this study tended to perform the function of part-time Aviation 3M System document screeners. Actually, so far as the Aviation 3M Manual is concerned, document screening is supposed to be performed by work center personnel and not by the analysts. This screening function performed by the Data Analysts has actually become a practical requirement because the forms submitted by the work centers almost always need re-screening. This is virtually the only "job content" at these lower pay grades except for a few cases where E-4's or E-5's assisted the senior DAC School trained analysts in preparing charts and diagrams in connection with statistical analyses.

It must be concluded from the above that there is insufficient substantive "job content" at the E-4 and E-5 levels to justify a general rating from E-4 through E-9.

7. Establish a Service Rating within the AZ rating which begins at pay grade E-6 and extends through E-9, with initial input from volunteers of any rating currently holding NEC-6313 but with future input restricted to AZ's at the E-6 pay grade.

This alternative would appear to offer the greatest promise for resolving the problems now existing in the Aviation 3M Data Analysis field. It is well known that a general rating or a service rating offer the greatest possibility for ensuring personnel stability in any occupational field. A rating or service rating designator is superior to NEC designators since there are certain mandatory requirements associated with the former in the personnel distribution process. The survey results confirmed this. They showed that 21% of those personnel who were performing as analysts did not hold NEC-6313, while 23% of the personnel who held this NEC were not performing as analysts. Establishment of a service rating at the E-6 level would ensure continuity in this specific field of work. Furthermore, the AZ rating would provide personnel with aviation maintenance administration experience required for data analysis. Also, the fleet survey returns indicated that 39% of the AZ population have a GCT+ARI of 115 or over which meets the entrance requirement for the DAC School. Another advantage would be that there would be few serious sea/shore rotation problems because, of the 600 plus data analyst billets involved, there are approximately 240 shore billets and 375 sea billets.

The selection of the E-6 pay grade as the input level into the Data Analyst service rating is based upon the following points. First, there would be little attrition due to non-reenlistments because few personnel can advance to E-6 during their first enlistment. Thus, the Navy's investment in sending such personnel to the DAC School would be justified and give the Navy an equitable return on its investment. Of course, some mandatory administrative procedure would have to be established to ensure that all volunteers were ordered to the DAC School as soon as feasible after volunteering. One of the prerequisites for transferring to the service rating would be the GCT+ARI score required for the DAC School. Another point is that E-6 AZ's should have acquired sufficient maintenance administration experience to understand the importance of the 3M System. The initial manning of the service rating should permit fully qualified Aviation 3M Data Analysts from ratings other than AZ to volunteer for transfer to the new service rating. This would have to be carefully monitored by BUPERS, as would the entire transferring process, so as to avoid stagnation of the rating at the higher pay grades. After initial minimum manning has been achieved, the source of Data Analysts would be the AZ rating as shown in the following diagram.



There are several apparent disadvantages to this alternative. First, the transfer of E-6 AZ's to the service rating may increase the already existing shortage of personnel in the AZ rating. Second, there is a possibility of the general quality level of personnel in the AZ rating being lowered as a result of many of the higher aptitude AZ's transferring to the Data Analyst service rating. Third, a morale problem may be caused among personnel remaining in the AZ rating due to the fact that the entrance requirements for the service rating would be higher than those for the AZ rating. Finally, the transfer of personnel at the E-6 through E-9 level from the AZ rating and from other ratings would have to be carefully monitored by BUPERS in order to avoid stagnating the service rating at the higher pay grades.

With regard to the first point above, the current shortage in the AZ rating may not be significantly increased because qualified Data Analysts from other

ratings would be transferring into the service rating also. Second, the general quality level of the AZ rating would probably not be lowered inasmuch as all AZ's do not want to become Data Analysts. Thus, there would probably be a significant proportion of highly qualified personnel remaining in the AZ rating. Relative to the possible morale problem mentioned above, it would probably not be serious inasmuch as there are other cases of this type in the enlisted personnel system. Finally, it is true that the transfer of personnel to the Data Analyst service rating would have to be carefully monitored, but this has been accomplished successfully in connection with other ratings.

In the process of an E-6 AZ transferring to E-6 AZA, there should be several official requirements that the transferee should meet before he is actually designated a qualified AZA. The major ones are discussed below.

First, the man must have a GCT+ARI score of 115. He must also volunteer for the transfer, and preferably his potential adaptability to the AZA service rating should be supported by his Commanding Officer. His request for transfer should be controlled and monitored by the Bureau of Naval Personnel. Next, BUPERS should order him to the DAC School as soon as feasible, but, preferably, between station transfers. Incidentally, the DAC School curriculum could be expanded and broadened since it will be serving as a "professional" school for prospective AZA's.

Upon successful completion of the DAC School, the graduate should be assigned a temporary AZA service rating designator and assigned to an operating squadron. He should serve in this squadron as an AZA for a trial period of three months, at the end of which, his Commanding Officer should be required to send an evaluation of his performance to BUPERS with a recommendation that he either be finally accepted in the AZA service rating or should be returned to regular AZ duties. As pointed out above, careful monitoring of these permanent transfers should be exercised by BUPERS in order to ensure that maximum utilization of trained personnel and full effectiveness of the Aviation 3M System are achieved.

CONCLUSIONS

On the basis of the research performed in connection with the various problems associated with the Aviation 3M Data Analysis function, the following conclusions have been drawn:

1. Several personnel, administrative, and other problems were found in the data analysis area, thus confirming the basic justification for conducting this research.

2. Completion of the DAC School is a prerequisite to effective performance as a qualified Aviation 3M Data Analyst.

3. There is and has been for some time a shortage of qualified Aviation 3M Data Analysts.

4. The Aviation 3M Data Analysis function is most compatible with the AZ rating at the E-6 level and above as compared to all other aviation ratings.

5. The AZ rating could provide sufficient input for the DAC School to meet the numerical requirements for Aviation 3M Data Analysts.

6. Of the several alternative solutions to the problems associated with the Aviation 3M Data Analysis function, the most appropriate, considering both operational and administrative requirements, is the establishment of an Aviation 3M Data Analyst Service Rating within the AZ rating which would extend from pay grade E-6 through E-9.

7. The initial input into the Data Analyst Service Rating should be primarily from the AZ rating, but personnel from other aviation ratings who are qualified in data analysis duties should not be excluded.

RECOMMENDATIONS

On the basis of the analysis and evaluation of the information gathered in this study, the following recommendations are presented:

1. Establish a Service Rating within the AZ rating which begins at pay grade E-6 and extends through E-9, with initial input from volunteers of any rating currently holding NEC-6313 but with future input restricted to AZ's at the E-6 pay grade.

2. The Manpower Authorization (OPNAV Form 1000/2) for each activity requiring Aviation 3M Data Analysts should be revised to include this service rating. As a general guide, the pay grades should be allocated as follows: E-6's and E-7's to squadrons, smaller IMA's, and OMD's; E-8's to larger IMA's and lower echelon staffs; and E-9's to higher echelon staffs.

3. The administrative procedures described on page 15, or comparable ones, for an E-6 AZ to transfer to the AZ Data Analyst Service Rating should be established.

4. The path of advancement for Aviation 3M Data Analysts to officer status should be to Warrant Officer 741X (Aviation Maintenance Technician) and Limited Duty Officer, Aviation Maintenance (685X).

APPENDIXES

APPENDIX A

Letter of Request from the
Chief of Naval Operations
of 13 February 1968

DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
WASHINGTON, D.C. 20350

IN REPLY REFER TO
Op-562B/iel
Ser 282P56
13 FEB 1968

From: Chief of Naval Operations
To: Chief of Naval Personnel

Subj: Aviation Data Analysis Personnel Research

Ref: (a) OPNAVNOTE 5050 of 9 Jan 1968

1. Item 38, recommendation 3 of reference (a) calls for identification of qualitative and quantitative requirements for aviation 3M data analysts. In addition, similar identification of requirements in other aviation data analysis areas such as ASW Data Centers is needed.

2. It is requested that the necessary personnel research to accomplish this identification be initiated as soon as practicable. The following "guidelines" apply:

a. The functional areas involved are aircraft maintenance management at the organizational and intermediate levels, ASW Data Centers, and any other areas in which aviation enlisted personnel perform data analysis.

b. Identification is to be accomplished on the basis of "pure" data collection, collation, presentation and interpretation distinct from related tasks in aircraft maintenance administration or other functional areas. Inter-relationships existing between data analysis and these related tasks should be identified as should the similarities and/or the unique characteristics of data analysis in the various functional areas.

c. Recommendations relative to rating structure are desired with specific attention to:

(1) A revised AZ rating.

(2) A separate aviation data analysis rating.

Op-562B/iel
Ser 282P56
13 FEB 1968

d. The research outline and schedule should be furnished to this office for approval and to "copy" addressees for information.

A. L. Burgess
By direction

Copy to:
CMC (AAZ)
COMNAVAIRPAC
COMNAVAIRLANT
CNATRA
COMNAVAIRSYSCOM
CNABATRA
CNAVANTRA
CNATECHTRA
CNARESTRA

APPENDIX B

One Copy Each of the Command Questionnaire
and the Individual Questionnaire With
Summaries of Responses to Items

Naval Personnel Research Activity
San Diego, California 92152

Do Not Write Here

1 (1)

(2)

DATA ANALYST SURVEY

Command Questionnaire

INSTRUCTIONS

The Chief of Naval Personnel has directed this Activity to conduct a research study of the rating structure, NEC's, and related personnel administration aspects of the 3M Data Analyst in response to a request from the Chief of Naval Operations (OP-56).

The results of this survey will be reported in summary form. The responses of individual persons or commands will not be revealed.

It is recommended that this questionnaire be completed by the Maintenance Officer or his qualified representative, such as the Data Analysis Officer.

Please skip any questions which do not apply to your Command.

Indicate your answers to the questions either by filling in the blocks, such as [0][8], or by circling the number preceding the appropriate response, such as 1 Yes (2) No.

Command Information

1. Command: _____

2. (6) Home Port: _____

3. (8) Present Location: _____

4. (11) Aircraft operated (model/series): (4a) [ ][ ][ ] (4b) [ ][ ][ ] (4c) [ ][ ][ ]

5. (17) Number of each (model/series): (5a) [ ][ ] (5b) [ ][ ] (5c) [ ][ ]

Com'D
1 — 26
2 — 21
3 — 7
4 — 7
5 — 2
6 — 2
7 — 3
8 — 2
9 — 3

Personnel Records Information

6. (23) Command's enlisted allowance: ☐☐☐

7. (27) Number enlisted attached: ☐☐☐

8. (31) AZ allowance: ☐☐ 758

9. (34) AZ's attached: ☐☐ 656

10. (37) AZ Manning Level (EDP): ☐☐ 158

11. (40) NEC-6313 allowance: ☐☐

12. (42) NEC-6313 attached: ☐☐ 151

13. (45) Number of enlisted 3M Data Analysis School graduates attached: ☐☐

# Com'D	# Com'D
0-8	4-3
1-38	5-1
2-31	6-1
3-14	

14. (47) Indicate the billets and rates of E-6's and above who hold NEC 6313 but are not performing 3M Data Analysis: (If none, so indicate.) 34

_____

_____

_____

15. (53) Number of AZ A-School graduates attached: ☐☐

16. Number of AZ's attached by pay grade, with GCT + ARI = 115 or over:

(16a) (55) AZCS	2	(16d) (58) AZ2	88
(16b) (56) AZC	19	(16e) (59) AZ3	61
(16c) (57) AZ1	29	(16f) (60) AZAN/AZAA	60

17. Names and service numbers of AZ's attached with GCT + ARI = 115 or above, excluding those who have attended 3M Data Analysis School: (If none, so indicate.)

_____

_____

_____

18. (61) Of those AZ's listed above in question 17, how many would you recommend to attend 3M Data Analysis School?

1	NA — 18	4	Two — 11
2	None - 21	5	Three - 7
3	One — 34	6	Four — 2
		7	FIVE — 5

General Information

19. (62) Since January 1967, how many months has your Command been without a qualified enlisted 3M Data Analyst? ☐☐

23 COMMANDS AVERAGE 7.22 MONTHS WITHOUT ANALYST

20. (65) How important does your Command consider contact reliefs for your 3M Data Analysts?

1	Mandatory	— 80
2	Very important	— 14
3	Important	- 1
4	Not critical	- 1
5	NA	— 0

NOTE - 8 & 9 HAVE 86.5% ON BOARD VS. ALLOWANCE
11 & 12 HAVE 95.6% ON BOARD VS. ALLOWANCE

21. (67) Indicate the lowest pay grade of any rating you consider required for 3M Data Analyst duties at your Command:

1 E-9 - 0
2 E-8 - 1
3 E-7 - 8
4 E-6 - 34
5 E-5 - 43
6 E-4 - 9
No Res. - 1

22. (69) What degree of maintenance experience does your Command consider is required for 3M Data Analysts?

1 None - 7
2 Maintenance administration as an AZ - 30
3 Shop maintenance in a Group IX rating - 15
4 Shop maintenance plus experience as an AZ - 43
No Res. 1

23. Which of the following officers in your Command have had at least a 5-day course on the 3M System?

23a. (70) Maintenance Officer:

1 Yes - 64
2 No - 31
No Res. - 1

23b. (71) Asst. Maintenance Officer:

1 Yes - 69
2 No - 25
No Res. - 2

23c. (72) Quality Assurance (Control) Officer:

1 Yes - 47
2 No - 47
No Res. - 2

24. (74) How many officers in your Command have attended the 3M Data Analysis School: ☐

com'd
0 - 59
1 - 24
2 - 5
3 - 7
4 - 1

Naval Personnel Research Activity
San Diego, California 92152

Do Not Write Here

2 (2)

(3)

(6)

DATA ANALYST SURVEY

Individual Questionnaire

INSTRUCTIONS

The purpose of this questionnaire survey is to obtain data from commands throughout the Navy on the 3M Data Analysis function. The final report on this survey will be used by the Chief of Naval Personnel in evaluating rating structure, NEC's, and other personnel matters pertaining to 3M Data Analysts.

This questionnaire should be completed by those persons who are currently functioning as data analysts. It should not be filled out by those who perform only document screening.

The results of this survey will be reported in summary form. The responses of individual persons or commands will not be revealed.

Please answer every question. Indicate your answers to the questions either by filling in the blocks, such as [0 8], or by circling the number preceding the appropriate response, such as 1 Yes (2) No 3 Undecided. "NA" means "not applicable."

1. Name: _____
(Last) (First) (Middle Initial)

2. Command: _____

3. (8) Service Number: [ ][ ][ ][ ][ ][ ][ ]

4. (15) Rate: [ ][ ][ ][ ]

ALL E9's - 3 AZ2 - 24
AZCS - 0 AZ3 - 2
AZC - 21 OTHERS - 44
AZ1 - 38

5. (17) Last prior rating held:

1 NA - 72 4 AT - 3
2 AM - 16 5 AD - 29
3 AE - 1 6 Other: - 11 (Specify)

6. (19) How many months of active duty have you had in the Navy (do not include temporary active duty in the reserve): [ ][ ][ ]

7. (22) Your current NEC's:

Primary NEC: [ ][ ][ ][ ]
PRI. 6313 - 100
OTHER - 32

Secondary NEC: [ ][ ][ ][ ]
SEC. 6313 - 4

8. (31) If you did not list NEC 6313 as a current NEC in answer to question No. 7, have you held NEC 6313 previously?

1 NA - 101
2 Yes - 3
3 No - 24
No Res. - 4

18 | 29 34

9. (32) Indicate the type of tour you are now on:

1 Sea — 54
2 Shore - 78

10. (33) How many months have you been on this sea or shore duty tour? ☐☐

11. (35) Department to which you are now assigned:

1 Maintenance - 116
2 Operations — 14
3 Administration - 0
4 Other: — 2
(Specify)

12. (36) Division/Branch to which you are now assigned:

1 Maintenance Control - 3
2 Quality Assurance (Control) - 2
3 Maintenance Administration — 4
4 Data Analysis — 122
5 Other: — 1
(Specify)

13. (37) Who directly supervises you in your 3M Data Analyst duties:

1 Executive Officer — 0
2 Maintenance Officer - 27
3 Asst. Maint. Officer - 16
4 Data Analysis Officer - 51
5 Quality Assurance (Control) Officer — 4
6 Senior Enlisted Data Analyst - 29
7 Other: — 5
(Specify)

14. (39) How many months have you been performing 3M Data Analyst duties in your present command: ☐☐

15. (41) Indicate the main collateral duty you are assigned:

1 None - 92
2 Command leading chief - 2
3 Shop work of rate — 13
4 Quality assurance (control) - 2
5 Check crew - 0
6 Command career counselor - 0
7 Other: — 23
(Specify)

16. (42) Number of years civilian education you have successfully completed: ☐☐

17. (44) Have you successfully completed a formal 3M Data Analysis School?

1 Yes — 115
2 No — 17

18. (45) Type of 3M Data Analysis School you attended:

1 Aviation - 117
2 Surface — 0
3 Both — 0
4 Neither — 15

19. (46) Did your present command, or any previous command, select you for attending the 3M Data Analysis School or did you volunteer for the school?

1 Selected — 55
2 Volunteered - 59
3 NA — 18

20. (47) Did you attend the 3M Data Analysis School between duty station assignments?

1 Yes — 12
2 No — 108
3 NA — 12

21. (48) Do you believe that the work center supervisors in your command generally have sufficient training in the 3M System?

1 NA — 8
2 Yes — 68
3 No — 56

22. (50) Average number of hours per month you give formal training on the 3M System to command work center personnel: ☐☐

23. (52) Do you believe that basic familiarization with the 3M System should be included in recruit training?

1 Yes — 94
2 No — 38

24. (53) Do you personally screen Maintenance Action Forms (MAF's)?

1 Yes — 114
2 No — 18

25. (54) Do you personally screen Support Action Forms (SAF's)?

1 Yes — 109
2 No — 23

26. (55) Do you personally screen Technical Directive Compliance Forms (TDC's)?

1 Yes — 111
2 No — 21

27. (56) Do you personally screen daily printouts?

1 Yes — 97
2 No — 35

28. (58) What is the lowest pay grade of any rating in the Data Analysis Branch that performs 3M document screening?

1 E-2 — 4
2 E-3 — 65
3 E-4 — 15
4 E-5 — 21
5 E-6 — 19
6 E-7 — 7
No Res - 1

29. (59) What should be the lowest AZ pay grade performing the 3M document screening?

1 E-2 — 10
2 E-3 — 35
3 E-4 — 50
4 E-5 — 29
5 E-6 — 7
6 E-7 — 1

30. (60) Is the Maintenance Department Personnel Roster for your command prepared and maintained by the 3M Data Analysis Branch?

1 NA — 14
2 Yes — 90
3 No — 28

31. (61) Is the Monthly Enlisted Personnel Roster for your command prepared and maintained by the 3M Data Analysis Branch?

1 NA — 13
2 Yes — 34
3 No — 80

32. (62) In general, how much of the statistical training you received in the 3M Data Analysis course do you use in your present Data Analysis billet?

1 None — 6
2 Very little — 37
3 Less than half — 43
4 More than half — 22
5 Very much — 11
6 NA — 13

33. In preparing data for the 3M Monthly Summary on the five categories listed below, which of the functions shown on the right do you perform? (Indicate by check mark (✓).)

	Category	Not Applicable	Function: Numerical Table Compilations	Function: Graphic Displays	Function: Trend Development	Function: Trend Projection
(63)	1. Manpower utilization	17	106	81	36	9
(68)	2. Efficiency of entire maintenance operation	27	90	71	35	30
(78)	3. Direct support cost per flying hour, per sortie, or departure as applicable	77	53	22	7	2
(2-8)	4. High man-hour consumers	63	63	7	14	1
(2-13)	5. High failure rate components	57	63	16	23	3

34. In preparing the 3M Monthly Summary from the Data Services Center Printouts, which of the functions (shown on the right) do you perform for each of the eight categories listed below, if any? (Indicate by check mark (✓).)

	Category	Do Not Provide Information	Function: Numerical Table Compilations	Function: Graphic Displays	Function: Trend Development	Function: Trend Projection
(2-18)	1. Cannibalization of components	29	87	72	58	7
(2-23)	2. Malfunctions causing aborts	99	30	8	6	0
(2-28)	3. Shop repair capability	107	25	8	6	1
(2-33)	4. Distributions of maintenance man-hours	13	110	69	23	12
(2-38)	5. Technical directive compliance program	82	44	1	2	2
(2-43)	6. Distribution of possessed aircraft hours	39	85	55	27	8
(2-48)	7. Man-hours lost to non-maintenance functions	26	102	42	20	12
(2-53)	8. Overtime expenditures	24	102	43	16	6

35. (2-58) In your opinion, which of the types of statistical analyses listed below do you regularly use in your present Data Analyst billet?

1 Trend analysis — 48
2 Trend development — 38
3 Trend projection — 16
4 None of these — 27
5 Other: _____ — 3
(Specify)

36. (2-59) Do you regularly determine the factors which cause abnormal aircraft discrepancy trends?

1 Yes — 50
2 No — 82

37. (2-60) Did you regularly determine the factors which cause abnormal man-hour utilization?

1 Yes — 97
2 No — 35

38. (2-61) Which term below best describes the proportion of time you devote to 3M Data Analyst duties in your present command?

1 Full time — 90
2 Over 50% — 27
3 Under 50% — 11
4 Negligible amount — 3
5 None — 1

39. (2-63) Indicate the approximate number of man-hours per month you spend preparing your command's 3M Monthly Summary: ☐☐

AVERAGE 41 MAN HOURS

40. (2-65) During the period from 1 January 1968 to 30 June 1968, how many times did your command's error rate in 3M System reports exceed the norm? 10 COMMANDS EXCEEDED NORM ONE TIME ☐

41. (2-66) For how many individuals do you submit man-hour accounting cards with Work Center Code 000? ☐☐

0 — 7 4 — 7
1 — 35 5 — 4
2 — 22 6 — 3
3 — 18

42. (2-69) Are you currently receiving proficiency pay?

1 Yes — 8
2 No — 124

43. (2-70) If you are not currently an AZ, indicate the main reason you have not converted to the AZ rating:

1 NA — 88
2 Not recommended by command — 0
3 Request disapproved by BUPERS — 1
4 Did not wish to lose proficiency pay — 2
5 Did not wish to learn new rating field for advancement — 5
6 Prefer present rating — 23
7 Other: _____ — 13
(Specify)

44. (2-71) If a new rating for 3M Data Analysts were established, would you request to convert to that rating?

1 Yes — 85
2 No — 18
3 Undecided — 29

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